

The Space Administration at the German Aerospace Center  
(Deutsches Zentrum für Luft- und Raumfahrt; DLR)

# **The ICCP/EUFAR/IAMAS Workshop on Software Training**

Presented at the EUFAR/IAMAS/ICCP  
7-9 July, 2017. MUNICH, GERMANY

# The national center for aerospace, energy and transportation research of the Federal Republic of Germany



# Presentations

## Processing Example

```
#!/usr/bin/env python

# Import egads package
import egads

# Import thermodynamic module and rename to simplify usage
import egads.algorithm.thermodynamics as thermo

# get list of all NetCDF files in 'data' directory
filenames = egads.input.get_file_list('data/*.nc')

f = egads.input.EgadsNetCDF() # create EgadsNetCDF instance

for name in filenames:      # loop through files

    f.open(name, 'a')       # open NetCDF file with append permissions

    T_s = f.read_variable('T_s') # read in static temperature
    P_s = f.read_variable('P_s') # read in static pressure from file

    rho = thermo.DensityDryAirCnm().run(P_s, T_s) # calculate density

    f.write_variable(rho, 'rho', ('Time',)) # output variable

    f.close()
```

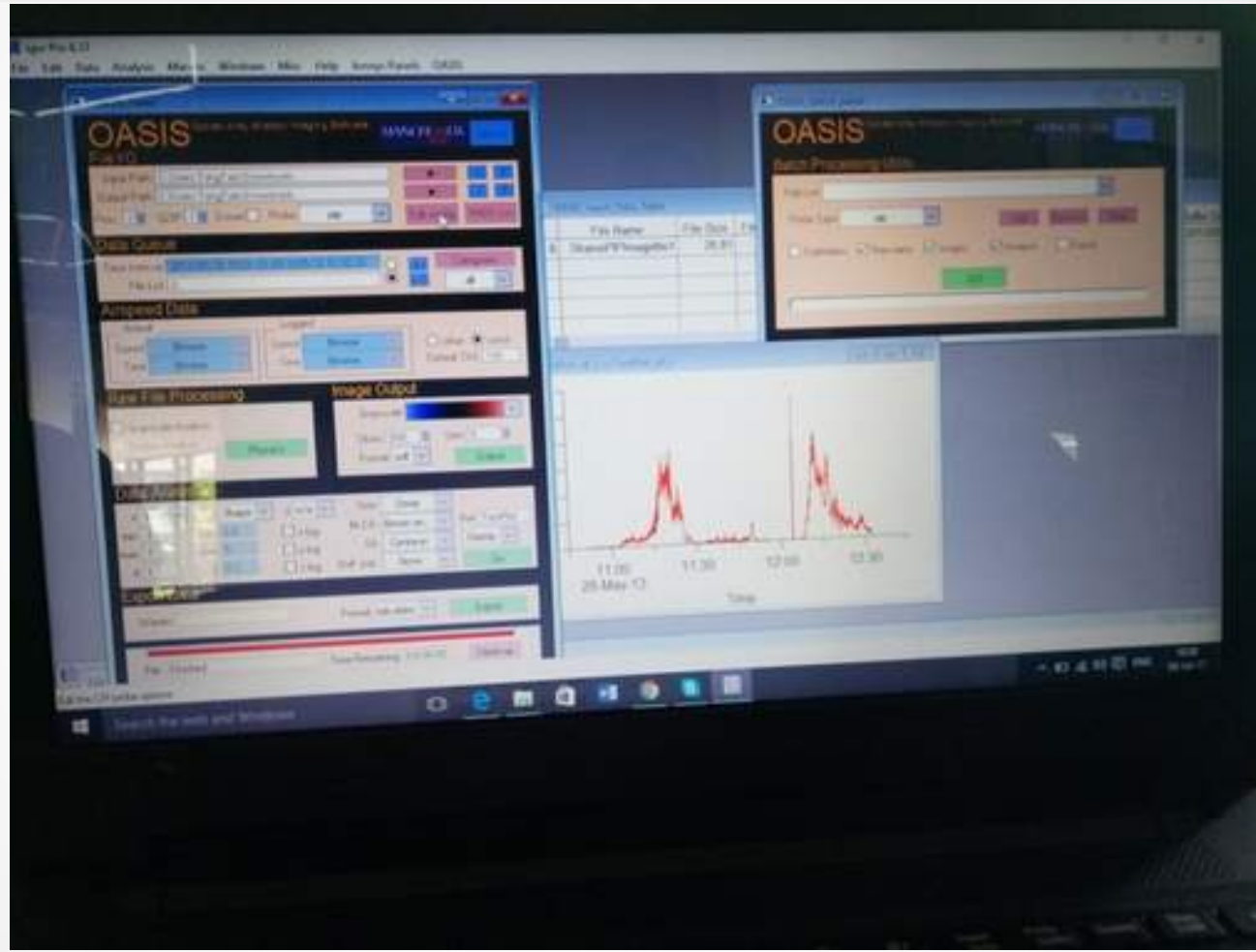
```
[14]: p_s
EgadsData', array([-9999.          , 1813.39648438, 1813.39648438, ..., 1081.807104]
-9999.          , -9999.          ], dtype=float32), 'hPa')

[15]: p_s.rescale('cm')
EgadsData', array([-9.86824512, 1.00014448, 1.00014448, ..., 0.98791736,
-9.86824512, -9.86824512], dtype=float32), 'atm')

[16]: p_s_atm = p_s.rescale('cm')
[17]: p_s_atm
EgadsData', array([-9.86824512, 1.00014448, 1.00014448, ..., 0.98791736,
-9.86824512, -9.86824512], dtype=float32), 'atm')

[18]: p_s = p_s_atm
EgadsData', array([-19998.          , 2826.79296875, 2826.79296875, ...,
2.01464844, -19998.          ], dtype=float32), 'hPa')
```

# Work with the software OASIS



# Below are links to the UND workshop presentations and tutorials.

Complementary software packages exist for handling aircraft data:

<https://sourceforge.net/projects/adpaa/files/>

[https://adpaa.sourceforge.io/wiki/index.php/Main\\_Page](https://adpaa.sourceforge.io/wiki/index.php/Main_Page)

<http://aerosol.atmos.und.edu/ADPAA/index.html>

# Photographer did some minor post-processing to the group picture



Marienplatz is a central square in the city centre of Munich, Germany.



# Munich





# The Siegestor



# Bewertungen Deutsches Theatermuseum



# Attendance Certificate

## Attendance Certificate

presented to

**Alisya Sadykova**

For participation in the  
EUFAR/IAMAS/IUGG/ICCP  
Analysis of Cloud Measurements Software Training Workshop

July 7-9, 2017  
Oberpfaffenhofen, Germany



Christiane Voigt  
EUFAR



Hans Volkert  
IAMAS/IUGG



Darrel Baumgardner  
ICCP

I am happy that I could attend this workshop. Thanks for the great organization ICCP/EUFAR/IAMAS and all the input from speakers! We commends the organizers EUFAR Office that provided travel support.

